

REMARKS

Claims 1 and 3-12 are pending in this application. Claims 1, 8, and 10-12 are independent. Claim 2 has been canceled without prejudice or disclaimer. In light of the amendments and remarks made herein, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections.

In the outstanding Official Action, the Examiner objected to the drawings; rejected claims 1-12 under 35 U.S.C. § 112, second paragraph; rejected claims 1-3, 11, and 12 under 35 U.S.C. § 102(a) as being anticipated by *Matsuo et al.* (JP02000223738A); rejected claims 1, 11, and 12 under 35 U.S.C. § 103(a) as being unpatentable over *Sekiguchi* (JP 402168678A) in view of Applicant's alleged admitted prior art (APA); rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over *Matsuo et al.*; rejected claims 5-7 under 35 U.S.C. § 103(a) as being unpatentable over *Matsuo et al.* in view of *Tani et al.* (USP 6,080,602); and rejected claims 8-10 under 35 U.S.C. § 103(a) as being unpatentable over *Matsuo et al.* in view of APA. Applicant respectfully traverses these rejections.

Drawings

In response to the Examiner's objection to the drawings, by this Amendment, Applicant is amending the specification to include FIG. 1A, which depicts light receiving element 2. Based upon this

amendment, Applicant respectfully requests that the outstanding objection be withdrawn.

Claim Rejections - 35 U.S.C. § 112

With regard to the Examiner's rejection of claims 1-12 under 35 U.S.C. § 112, second paragraph, by this Amendment, Applicant is amending claims 1, 11, and 12 to correct the antecedent error. Based upon these amendments, it is respectfully requested that the outstanding rejection be withdrawn.

Claim Rejections - 35 U.S.C. § 102

In support of the Examiner's rejection of claim 1, the Examiner asserts that *Matsuo et al.* teaches an output section having a light receiving element 12 wherein the light receiving face is opposed to light emitting faces of the light emitting elements, citing to Fig. 8 and ref. 11. The Examiner further asserts that *Matsuo et al.* teaches a plurality of light emitting elements connected in series, citing to para. 16. Applicant respectfully disagrees with the Examiner's characterization of this reference.

By this Amendment, Applicant has amended claim 1 to clarify an output section having one light receiving element which corresponds to the plurality of light emitting elements wherein the light receiving face is opposed to light emitting faces of the light emitting elements, and lead terminals for supplying a drive current

to the light receiving element, wherein light from the plurality of light emitting elements is supplied to the light receiving element. Applicant has further amended claim 1 to include the elements of claim 2. It is respectfully submitted that these amendments are being made without conceding the propriety of the Examiner's rejection, but merely to timely advance prosecution.

In response to Applicant's arguments filed on July 22, 2003, the Examiner asserts that *Matsuo et al.* clearly shows in Fig. 6 that a light receiving element 12 receives light emitted from the plurality of light emitting elements 11. The Examiner further asserts that even though each one of the light receiving elements 12 receives light emitted from the corresponding light emitting element 11, a light receiving element 12 clearly receives light emitted from a plurality of light emitting elements 11. Applicant respectfully disagrees with the Examiner's characterization of the *Matsuo et al.* reference.

It is respectfully submitted that the disclosure set forth in *Matsuo et al.* is directed to a photocoupling semiconductor device. As described in *Matsuo et al.*, each one light emitting element is only optically connected to each light receiving element in a one-on-one disposition. As depicted in Fig. 8, while light emitting element 11 is opposed to light receiving element 12, the light path is sealed by a light blocking effect inner package 19B. Light

emitting element 16 is merely used to monitor light emitting element 11. Thus, light emitting element 16 is utilized solely to confirm whether the light emitting element 11, to which it is connected, is energized and light is emitted therefrom. This is accomplished by visually checking to see whether light emitting element 16 is energized. As such, the light from the light emitting element 16 is not received by the light receiving element 12.

Additionally, as noted above, each channel is optically isolated. If there was crosstalk between the channels, the photocoupling semiconductor device would be inoperable. As such, *Matsuo et al.* fails to teach an output section having one light receiving element which corresponds to the plurality of light emitting elements wherein the light receiving element is opposed to light emitting faces of the light emitting elements, wherein light from the plurality of light emitting elements is supplied to the light receiving element as recited in claim 1, as amended. As such, it is respectfully submitted that claim 1 is not anticipated by *Matsuo et al.*

Additionally, *Matsuo et al.* teaches light emitting device 11 and light emitting device 16 connected in series [0016]. However, the present invention as set forth in claim 1 recites, *inter alia*, wherein the plurality of light emitting elements are connected in series. It is respectfully submitted that *Matsuo et al.* fails to

teach the plurality of light emitting elements, supplying light to the light receiving element, being connected in series. As such, it is respectfully submitted that claim 1 is not anticipated by *Matsuo et al.*

It is respectfully submitted that claims 11 and 12 contain the recitation that the plurality of light emitting elements are connected in series. As such, for the reasons set forth with regard to claim 1 with regard to this claim element, it is respectfully submitted that claims 11 and 12 are allowable for the reasons set forth above with regard to claim 1.

It is further respectfully submitted that claim 11 includes the recitation "wherein the light receiving element receives light from the plurality of light emitting elements." As such, claim 11 is not anticipated by *Matsuo et al.* for the reasons set forth above with regard to claim 1, as similarly discussed.

Claim Rejections - 35 U.S.C. § 103 - *Sekiguchi*/APA

By this Amendment, Applicant has amended claim 1 to include the elements of claim 2. Specifically, claim 1 has been amended to recite, *inter alia*, wherein the plurality of light emitting elements are connected in series via a plurality of headers. However, as discussed above with regard to the *Matsuo et al.* reference, *Matsuo et al.* merely discloses connecting light emitting element 11 and light emitting element 16 in series. As light

emitted from light emitting element 16 is not received by the light receiving element, and there is no disclosure in the *Matsuo et al.* reference that teaches the plurality of light emitting elements supplying light to the light receiving element being connected in series, it is respectfully submitted that claim 1, as amended, is patentable over *Sekiguchi* in view of APA.

In support of the Examiner's rejection of the claims, the Examiner asserts that *Sekiguchi* teaches having a plurality of light emitting elements (1a-1c) and a light receiving element 2 where the plurality of light emitting elements are connected in series. The Examiner notes that *Sekiguchi* does not teach a light receiving face being opposed to light emitting faces of the light emitting elements. The Examiner relies on Applicant's alleged admitted prior art, specifically Fig. 10, teaching a light receiving face being opposed to light emitting faces of the light emitting elements. The Examiner concludes it would have been obvious to one of ordinary skill in the art to provide the physical configuration of Fig. 10 in the device of *Sekiguchi* for the purpose of increasing light detection of photodetector 2. Applicant respectfully disagrees with the Examiner's characterization of this reference.

The Examiner's characterization of Applicant's alleged admitted prior art is incorrect. Fig. 10 merely shows a light

receiving face being opposed to a light emitting face, not a plurality of light emitting faces of light emitting elements.

In order to sustain a claim rejection under 35 U.S.C. § 103(a), it is respectfully submitted that the Examiner must meet his burden to establish a *prima facie* case. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Based upon the Examiner's failure to provide a reference that teaches or suggests all of the claimed elements, namely, an output section having a light receiving element, wherein a light receiving face is opposed to light emitting faces of the light emitting elements, it is respectfully submitted that claim 11 is not obvious over *Sekiguchi* in view of APA.

It is respectfully submitted that claim 12 contains elements similar to those discussed above with regard to claim 11 and, thus,

claim 12 is not obvious over *Sekiguchi* in view of APA for the reasons set forth above with regard to claim 11.

Claim Rejections - 35 U.S.C. § 103 - *Matsuo et al.*/APA

With regard to the Examiner's rejection of claim 8, it appears that the Examiner is relying on the teachings of *Matsuo et al.* to teach forming an output section having a light receiving element opposed to light emitting faces of a light emitting element. It is respectfully submitted that *Matsuo et al.* fails to teach or suggest this element for the reasons set forth above with regard to claim 1. As APA fails to cure the deficiencies of the teachings of *Matsuo et al.* by failing to teach or suggest this claim element, it is respectfully submitted that claim 8 is not obvious over *Matsuo et al.* in view of APA.

It is respectfully submitted that claim 10 contains elements similar to those discussed above with regard to claim 8 and, thus, claim 10 is not obvious over *Matsuo et al.* in view of APA for the reasons set forth above with regard to claim 8.

Claim Rejections - 35 U.S.C. § 103 - *Matsuo et al.*

With regard to the Examiner's rejection of claim 4, the Examiner asserts that *Matsuo et al.* is silent regarding structures of the two light emitting elements being different from each other. The Examiner asserts that using two different structure of light emitting elements is widely known and therefore concludes it would

have been obvious to one of ordinary skill in the art to provide different lighting elements for the purposes of design requirement.

Applicant submits that the use of different light emitting elements is not widely known. Applicant respectfully requests the Examiner provide a reference that teaches a reference, combinable with *Matsuo et al.*, such that, when combined, teaches the claimed element.

Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Catherine M. Voisinet (Reg. No. 52,327) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Appl. No. 09/837,174


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment(s): New Fig. 1A